

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of manufacturing a semiconductor device comprising:

a preparation process ~~step~~ of supplying and adsorbing a substance for restricting adhesion of a material for forming a tungsten film or a tungsten compound film and for restricting formation of nuclei for growing ~~a metal~~ the tungsten film or ~~a metal~~ the tungsten compound film onto a surface of a process target substrate; and

~~a film forming step of forming a metal~~ the tungsten film or ~~a metal~~ the tungsten compound film ~~whose surface has bumps~~ on said substrate by supplying [[a]] said material for forming of said ~~metal~~ tungsten film or said ~~metal~~ tungsten compound film ~~onto~~ to the surface of said substrate after said preparation process ~~step~~, while restricting adhesion of said material to the substrate by said substance adsorbed on the surface.

2. (Currently Amended) The method of manufacturing a semiconductor device according to claim 1, wherein:

~~said preparation process step comprises a step of supplying a substance for restricting adhesion of NH_3 onto the surface of said substrate; and~~

~~said film forming step comprises a step of forming a tungsten nitride film whose surface has bumps on said substrate by supplying WF_6 and NH_3 onto the surface of said substrate.~~

3. (Currently Amended) The method of manufacturing a semiconductor device according to claim 2, wherein

~~said substance comprises preparation process step comprises a step of restricting adhesion of NH_3 onto the surface of said substrate by supplying a halogen containing substance element onto the surface of said substrate.~~

4. (Currently Amended) The method of manufacturing a semiconductor device according to claim 3, wherein

~~said halogen containing substance comprises preparation process step comprises a step of supplying ClF_3 or WF_6 onto the surface of said substrate as said halogen element.~~

5. (Withdrawn) The method of manufacturing a semiconductor device according to claim 2, wherein

~~said preparation process step comprises a step of restricting adhesion of NH_3 onto the surface of said substrate by bonding groups made of C and H onto the surface of said substrate.~~

6. (Withdrawn) The method of manufacturing a semiconductor device according to claim 5, wherein

said preparation process ~~step~~ comprises ~~a step of~~ coating at least one of HMDS ((CH₃)₃SiNH₃Si(CH₃)₃), alcohol, and ketone onto the surface of said substrate in order to bond groups made of C and H onto the surface of said substrate.

7. (Withdrawn) The method of manufacturing a semiconductor device according to claim 5, wherein

said preparation process ~~step~~ comprises ~~a step of~~ exposing the surface of said substrate to vapor of at least one of HMDS, alcohol, and ketone in order to bond groups made of C and H onto the surface of said substrate.

8. (Withdrawn) The method of manufacturing a semiconductor device according to claim 6, wherein

said preparation process ~~step~~ comprises ~~a step of~~ using C₂H₅OH as the alcohol.

9. (Withdrawn) The method of manufacturing a semiconductor device according to claim 7, wherein

said preparation process ~~step~~ comprises ~~a step of~~ using C₂H₅OH as the alcohol.

10. (Withdrawn) The method of manufacturing a semiconductor device according to claim 6, wherein

said preparation process ~~step~~ comprises ~~a step of~~ using CH₃COCH₃ as the ketone.

11. (Withdrawn) The method of manufacturing a semiconductor device according to claim 7, wherein

said preparation process ~~step~~ comprises ~~a step of~~ using CH_3COCH_3 as the ketone.

12. (Currently Amended) A method of manufacturing a semiconductor device comprising:

a preparation process ~~step~~ of supplying and adhering a halogen containing substance ~~element~~ onto a surface of a substrate, the halogen containing substance restricting adhesion of a material for forming a tungsten film or a tungsten compound film and restricting formation of nuclei for growing a tungsten film or tungsten compound film; and

~~a film forming step of forming a metal tungsten film or a metal tungsten compound film whose surface has bumps~~ on said substrate by supplying a material of said ~~metal tungsten~~ film or said ~~metal tungsten~~ compound film ~~onto~~ to the surface of said substrate after said preparation process ~~step~~, while restricting adhesion of said material to the substrate by said halogen containing substance.

13. (Withdrawn) A method of manufacturing a semiconductor device comprising:

a preparation process ~~step~~ of bonding groups made of C and H onto a surface of a substrate; and

~~a film forming step~~ of forming a metal film or a metal compound film whose surface has bumps on said substrate by supplying a material of said metal film or said metal compound film onto the surface of said substrate after said preparation process ~~step~~.

14. (Currently Amended) The method of manufacturing a semiconductor device according to claim 1, wherein

~~said film forming step controls a shape of the bumps on said metal film or said metal compound film formed in said film forming step~~ the adhesion of said material for forming the tungsten film or the tungsten compound film is controlled by controlling a time in which a preparation process is performed.

15. (Currently Amended) The method of manufacturing a semiconductor device according to claim 12, wherein

~~said film forming step controls a shape of the bumps on said metal film or said metal compound film formed in said film forming step~~ the adhesion of said material for forming the tungsten film or the tungsten compound film is controlled by controlling a time in which a preparation process is performed.

16. (Withdrawn) The method of manufacturing a semiconductor device according to claim 13, wherein

said film forming ~~step~~ controls a shape of the bumps on said metal film or said metal compound film formed in said film forming ~~step~~ by controlling a time in which a preparation process is performed.

17 – 25 (Cancelled).

26. (Currently Amended) The method of manufacturing a semiconductor device according to claim 1, wherein:

~~said preparation process step is a step of supplying the substance for restricting formation of nuclei onto the surface of said substrate~~ has a that is substantially plane planar surface. ; and

~~—— said film forming step is a step of forming a metal film or a metal compound film which has bumps on said substrate.~~

27. (Currently Amended) The method of manufacturing a semiconductor device according to claim 1, wherein:

~~said preparation process step is a step of supplying the substance for restricting formation of nuclei onto the surface of said substrate~~ that has a predetermined roughness; and

~~said film forming step is a step of~~ comprises forming on said substrate ~~— a metal tungsten~~ film or a ~~metal tungsten~~ compound film which has bumps that are rougher than the surface of said substrate.

28. (Currently Amended) The method of manufacturing a semiconductor device according to claim 1, further comprising

~~a step of forming a conductive film which faces said metal tungsten~~ film or said ~~metal tungsten~~ compound film via an insulation material,

wherein said method ~~forms capacitance~~ is for forming a capacitor.

29. (Currently Amended) The method of manufacturing a semiconductor device according to claim 12, wherein:

~~said preparation process step is a step of supplying the substance for restricting formation of nuclei onto the surface of said substrate that is substantially plane planar; and~~
~~—said film forming step is a step of forming a metal film or a metal compound film which has bumps on said substrate.~~

30. (Currently Amended) The method of manufacturing a semiconductor device according to claim 12, wherein:

~~said preparation process step is a step of supplying the substance for restricting formation of nuclei onto the surface of said substrate that has a predetermined roughness; and~~

~~said film forming step is a step of~~ comprises forming on said substrate ~~— a metal tungsten~~ film or a ~~metal tungsten~~ compound film which has bumps that are rougher than the surface of said substrate.

31. (Currently Amended) The method of manufacturing a semiconductor device according to claim 12, further comprising

~~a step of forming a conductive film which faces said metal tungsten~~ film or said ~~metal tungsten~~ compound film via an insulation material,

wherein said method ~~forms capacitance~~ is for forming a capacitor.

32. (Withdrawn) The method of manufacturing a semiconductor device according to claim 13, wherein:

said preparation process ~~step is a step of~~ comprises supplying the substance for restricting formation of nuclei onto the surface of said substrate that is substantially plane; and

said film forming ~~step is a step of~~ comprises forming a metal film or a metal compound film which has bumps on said substrate.

33. (Withdrawn) The method of manufacturing a semiconductor device according to claim 13, wherein:

said preparation process ~~step is a step of~~ comprises supplying the substance for restricting formation of nuclei onto the surface of said substrate that has predetermined roughness; and

said film forming ~~step is a step of~~ comprises forming on said substrate, a metal film or a metal compound film which has bumps that are rougher than the surface of said substrate.

34. (Withdrawn) The method of manufacturing a semiconductor device according to claim 13, further comprising

~~a step of~~ forming a conductive film which faces said metal film or said metal compound film via an insulation material,

wherein said method ~~forms capacitance~~ is for forming a capacitor.

35 – 37. (Canceled)

38. (New) The method of manufacturing a semiconductor device according to claim 2, wherein:

said substance for restricting formation of nuclei restricts nucleation of NH_3 .

39. (New) The method of manufacturing a semiconductor device according to claim 1, wherein:

a surface of the tungsten film or the tungsten compound film formed by said film forming step has bumps.

40. (New) The method of manufacturing a semiconductor device according to claim 12, wherein:

a surface of the tungsten film or the tungsten compound film formed by said film forming step has bumps.

41. (New) The method of manufacturing a semiconductor device according to claim 12, wherein:

said halogen containing substance for restricting adhesion restricts adhesion of NH_3 .